

REMARKS

In accordance with the foregoing, claim 28 is amended. No new matter is added. Claims 19-38 are pending and under consideration.

CLAIM OBJECTION

Claim 28 is objected to relative to the use of the term "reminder." The claim is amended herewith to use an alternative language. In view of the claim amendments, Applicant respectfully requests the objection to be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. §103

Claims 19-38 are rejected under 35 USC §103(a) as allegedly being unpatentable over U.S. Patent Application Publication No. 2002/0122410 to Kulikov et al. (hereinafter "Kulikov") in view of U.S. Patent No. 6,434,187 to Beard et al. ("Beard").

Kulikov discloses a method of wireless data exchange amongst ad-hoc mobile devices of limited range within a communications network, using special protocols (see Kulikov's Abstract). Beard discloses a method for radiofrequency (RF) transmission of digital information (see Beard's Amstact).

Independent claim 19 is directed to a method for signaling relating to an intended data transmission from a first radio station to a second radio station in an ad-hoc mode of a radio communication system.

Kulikov and Beard alone and in combination do not disclose "dividing a frequency band into a plurality of sub-bands for communicating between the radio stations in the ad-hoc mode, wherein the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands" as recited in claim 19.

The Office Action asserts that the abstract, claim 33 and claim 35 of Kulikov anticipates or render obvious the above-identified operation recited in claim 19. Kulikov's abstract contains no reference to diving a frequency band.

Claim 33 of Kulikov discloses "division of all or a part of said frequency band into two or more frequency channels (sub-bands), one of which is considered as base channel, and the others as operative ones, wherein all the variety of possible applications or tasks to be processed is preliminarily assigned on at least one channel, and one channel is being assigned to use for processing only account data of all the plurality of devices in network." Claim 33 does

not teach or suggest that “the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands” as recited in claim 19.

Claim 35 of Kulikov which depends from claim 33 therein, asserts “the job is processed by the following steps: every device periodically broadcasts its own account data; every device periodically collects account data about other communication devices within the accessible range on the specially assigned channel for account data exchange; the channel assigned for this type of job is being selected and occupied; to process the joint job the devices switched to the channel where this job is currently being processed.” The fact that every device transmits data on the specially assigned channel for data exchange is not the same as “the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands” as recited in claim 19.

Further, the Office Action admits that “Kulikov fails to disclose notification is sent to the group consisting of one or more first sub-bands and one or more second sub-bands” but relies on Beards to compensate for this failure. Beards discloses transmitting data at multiple frequencies to combat multipath fading, but this feature does not compensate for Kulikov’s failure to render obvious the features recited in claim 19. In particular transmitting data at multiple frequencies as taught in Beards does not compensate for Kulikov’s failure to anticipate or render obvious “the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands” as recited in claim 19.

Kulikov and Beards alone and in combination do not disclose “sending a notification from the first radio station relating to the intended data transmission to the second radio station, the notification being sent only on one or more sub-bands selected from the group consisting of the one or more first sub-bands and the one or more second sub-bands” as recited in claim 19.

The Office Action alleges that Kulikov renders obvious “sending a notification from the first radio station relating to the intended data transmission to the second radio station” in paragraph [0113] of Kulikov and a portion of claim 57 therein.

However, paragraph [0113] describes a notification to free reserved resources along a transmission path when failure of data transmission occurs and not a notification from a future sender (the first radio station intends to send data) about the intended data transmission.

The indicated portion of claim 57 in Kulikov states “when there is no data about the message addressee on the server, the sender is notified about the impossibility to deliver the message.” In other words the notification is received by the sender (first radio station) and not send by the future sender as claimed.

Further relative to the feature ", the notification being sent only on one or more sub-bands selected from the group consisting of the one or more first sub-bands and the one or more second sub-bands" of claim 19, the Office Action indicates "claim 35 every device transmits data of specially assigned channel." As discussed above, a channel specially assigned for data transmission does not anticipate or render obvious a "group consisting of the one or more first sub-bands and the one or more second sub-bands" assigned to the first radio station and the second radio station, respectively.

As emphasized in MPEP 2143.03 "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). In this case, the Examiner failed to make a prima facie case of obviousness because not all the features recited in the claims are considered as argued above.

Therefore claim 19 and claims 20-24, 31 and 32 depending directly or indirectly from claim 19 patentably distinguish over the cited prior art.

Independent claim 25 is directed to a method for signaling relating to an intended data transmission from a first radio station to a second radio station in an ad-hoc mode of a radio communication system.

Kulikov and Beards alone and in combination do not disclose "dividing a frequency band into a plurality of sub-bands for communication between the radio stations in the ad-hoc mode, wherein the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands" as recited in claim 25.

The Office Action asserts that claim 33 of Kulikov by disclosing "dividing frequency band into two or more frequency channels/sub-bands" anticipates or render obvious the above-identified operation recited in claim 25. Applicant found no evidence that claim 33 of Kulikov or the whole disclosure of Kulikov and Beards render obvious that "the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands" as recited in claim 25.

Kulikov and Beards alone and in combination do not disclose "receiving a notification at the second radio station from the first radio station relating to the intended data transmission from the first radio station to the second radio station" as recited in claim 25.

The Office Action alleges that a portion of claim 57 in Kulikov renders obvious the above-identified feature of claim 25 (i.e., "sending ..."). However, the indicated portion indicates a notification received by a sender about failure of delivery of data, and not a notification about an intended data transmission from the future sender as recited in claim 25.

Kulikov and Beards alone and in combination do not disclose “after receiving the notification, sending an acknowledgement from the second radio station to the first radio station to acknowledge the intended data transmission, the acknowledgement being sent only on one or more sub-bands selected from the group consisting of one or more first sub-bands and one or more second sub-bands” as recited in claim 25.

The Office Action alleges that the last paragraph of claim 57 in Kulikov “after the message is successfully delivered, a corresponded notification is transmitted to the sender” anticipates or render obvious the above-identified claimed feature (“after...”). However, in claim 25, the acknowledgement refers to the intended data transmission, and it is send “only on one or more sub-bands selected from the group consisting of one or more first sub-bands and one or more second sub-bands.” The Examiner fails to make a *prima facie* case of obviousness because no all the words of the claim are considered. Applicants found no evidence that disclosures of Kulikov and Beards render obvious the above-identified and positively recited features of claim 25.

Therefore claim 25 and claims 26-28 depending directly or indirectly from claim 25 patentably distinguish over the cited prior art.

Independent claim 29 is directed to a method for signaling relating to an intended data transmission from a first radio station to a second radio station in an ad-hoc mode of a radio communication system.

Kulikov and Beards alone and in combination do not disclose “dividing a frequency band into a plurality of sub-bands for communicating between the radio stations in the ad-hoc mode, wherein the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands” as recited in claim 29

The Office Action asserts that claim 33 of Kulikov by disclosing “dividing frequency band into two or more frequency channels/sub-bands” anticipates or render obvious the above-identified operation recited in claim 29. Applicant found no evidence that claim 33 of Kulikov or the whole disclosure of Kulikov and Beards render obvious that “the first radio station is assigned one or more first sub-bands and the second radio station is assigned one or more second sub-bands” as recited in claim 29.

Kulikov and Beards alone and in combination do not disclose “sending a notification from the first radio station relating to the intended data transmission to the second radio station, the notification being sent only on one or more sub-bands selected from the group consisting of the

one or more first sub-bands and the one or more second sub-bands" as recited in claim 29.

The Office Action alleges that claim 35 by disclosing "device transmit data on assigned channel" anticipates or render obvious the above-identified feature recited in claim 29 (sending ..."). However, merely having devices in a radio communication system using an assigned channel for data transmission does not anticipate or render obvious (1) a future sender (radio station one sending a notification related to an intended data transmission, and (2) that the notification is sent only on selected channels from the channels assigned to the sender (first radio station) and receiver (second radio station).

Kulikov and Beards alone and in combination do not disclose "receiving a notification at the second radio station from the first radio station relating to the intended data transmission from the first radio station to the second radio station" as recited in claim 29.

Contrary to the situation described in Kulikov, according to claim 29, an intended recipient of a future (intended) data transmission receives the notification and not the sender (i.e. the first radio station) as in Kulikov.

Kulikov and Beards alone and in combination do not disclose "after receiving the notification, sending an acknowledgement from the second radio station to the first radio station to acknowledge the intended data transmission, the acknowledgement being sent only on one or more sub-bands selected from the group consisting of one or more first sub-bands and one or more second sub-bands" as recited in claim 29.

The Office Action alleges that the last paragraph of claim 57 in Kulikov anticipates or render obvious the above-identified claimed feature ("after..."). However, in claim 29, the acknowledgement refers to the intended data transmission, and it is send "only on one or more sub-bands selected from the group consisting of one or more first sub-bands and one or more second sub-bands." The Examiner fails to make a *prima facie* case of obviousness because no all the words of the claim are considered. Applicants found no evidence that disclosures of Kulikov and Beards render obvious the above-identified and positively recited features of claim 29.

Therefore, claim 29 and claim 30 depending from claim 29 patentably distinguish over the cited prior art references.

Independent claim 33 is directed to radio station for communicating with another radio station in an ad-hoc mode of a radio communication system, having a first memory, a second memory, and a transmitter. No such structure is disclosed in the cited prior art references. Therefore, Claim 33 and claim 34 depending from claim 33, patentably distinguishes over the cited prior art.

Independent claim 35 is directed to a radio station for communicating with another radio station in an ad-hoc mode of a radio communication system, having a first memory, a second memory, means for receiving and analyzing a notification, and a transmitter. None of the cited prior art discloses a radio station having the structure recited in claim 35. Therefore, claim 35 and claim 36 depending from claim 35 patentably distinguishes over the cited prior art.

Independent claim 37 is directed to a computer readable storage medium containing a computer program to control a computer to perform a process for a first radio station in an ad-hoc mode of a radio communication system.

Kulikov and Beards alone and in combination do not disclose “selecting one or more sub-bands which will be used for sending, to a second radio station, a notification of an intended data transmission from the first radio station to the second radio station, said selection being made from one or more first sub-bands which have been assigned to the first radio station for communicating and/or from one or more second sub-bands which have been assigned to the second radio station for communicating, said sub-bands belonging to a frequency band which is divided into a plurality of sub-bands” as recited in claim 37.

The Office Action alleges that claim 35 of Kulikov by disclosing “every device transmits data on the specially assigned channel” and claim 39 of Kulikov by disclosing “channel is assigned to do certain job and if occupied the next unoccupied channel is selected” anticipated or render obvious the above-identified feature of claim 37. However, the identified portions of Kulikov, or Kulikov and Beards disclosures as a whole fail to anticipate or render obvious at least that (1) the selected channel will be used for sending a notification of an intended data transmission from the first radio station to the second radio station, and that the selection is made among “from one or more first sub-bands which have been assigned to the first radio station for communicating and/or from one or more second sub-bands which have been assigned to the second radio station for communicating.” Therefore claim 37 patentably distinguishes over the cited prior art references.

Independent claim 38 is directed to a computer readable storage medium containing a computer program to control a computer to perform a process for a second radio station in an ad-hoc mode of a radio communication system.

Kulikov and Beards alone and in combination do not disclose “ selecting one or more sub-bands which will be used for sending, to a first radio station, an acknowledgement of an intended data transmission from the first radio station to the second radio station, the acknowledgment being sent from the second radio station to the first radio station, said selection

being made from one or more first sub-bands which have been assigned to the first radio station for communicating and/or from one or more second sub-bands which have been assigned to the second radio station for communicating, said sub-bands belonging to a frequency band which is divided into a plurality of sub-bands" as recited in claim 38.

In view of the extensive discussions relative to the actual significance of the portions cited from the prior art references, claim 38 patentably distinguishes at least because "selection being made from one or more first sub-bands which have been assigned to the first radio station for communicating and/or from one or more second sub-bands which have been assigned to the second radio station for communicating" is not anticipated or rendered obvious.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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